

CLAIMS

1. A microorganism culture containing (a) aerobic microorganisms, (b) anaerobic microorganisms, (c) at least one Basidiomycetes belonging to Pleurotus coruncopiae,
5 living in symbiosis with each other, and enzymes produced as their metabolites.
2. The microorganism culture as claimed in Claim 1, wherein Basidiomycetes is obtained by mating Pleurotus coruncopiae with Pleurotus coruncopiae.
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3. The microorganism culture as claimed in Claim 1, which further contains photosynthetic bacteria.
4. The microorganism culture as claimed in Claim 3, which further contains enzymes for decomposing carbon.
- 15 5. A process for producing the microorganism culture as claimed in Claim 1, which comprises the following stages:
 - (1) incorporating a source of aerobic microorganisms and an essence of Basidiomycetes containing at least Pleurotus coruncopiae into a solution obtained by pulverizing proteins mainly comprising animal proteins,
- 20 6. adding grain and yeast to the pulverized substances to undergo fermentation, heating the fermented products, pulverizing the heated product, adding a Lactobacillaceae culture or a Bacillus subtilis culture to the pulverized products and fermenting the culture under aerobic conditions, and culturing the microorganisms under aerobic conditions at normal temperature and normal pressure until the solution becomes transparent; and
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- (2) incorporating a source of anaerobic microorganisms to the above culture and culturing the mixture under anaerobic conditions at normal temperature and normal pressure.
- 30 6. A process for producing the microorganism culture as claimed in Claim 3, which comprises the following stages:
 - (1) incorporating a source of aerobic microorganisms and an essence of Basidiomycetes containing at least Pleurotus coruncopiae into a solution obtained by pulverizing proteins mainly comprising animal proteins,
- 35 6. adding grain and yeast to the pulverized substances to undergo fermentation, heating the fermented products, pulverizing the heated

- product, adding a Lactobacillaceae culture or a *Bacillus subtilis* culture to the pulverized products and fermenting the culture under aerobic conditions, and culturing the microorganisms under aerobic conditions at normal temperature and normal pressure until the solution becomes transparent;
- 5 (2) incorporating a source of anaerobic microorganisms to the above culture and culturing the mixture under anaerobic conditions at normal temperature and normal pressure, and
- (3) adding photosynthetic bacteria to the culture and further continuing the culturing.
- 10 7. A process for producing the microorganism culture as claimed in Claim 4, which comprises the following stages:
- (1) incorporating a source of aerobic microorganisms and an essence of Basidiomycetes containing at least *Pleurotus coruncopiae* into a solution obtained by pulverizing proteins mainly comprising animal proteins,
- 15 adding grain and yeast to the pulverized substances to undergo fermentation, heating the fermented products, pulverizing the heated product, adding a Lactobacillaceae culture or a *Bacillus subtilis* culture to the pulverized products and fermenting the culture under aerobic conditions, and culturing the microorganisms under aerobic conditions at normal temperature and normal pressure until the solution becomes transparent;
- 20 (2) incorporating a source of anaerobic microorganisms to the above culture and culturing the mixture under anaerobic conditions at normal temperature and normal pressure,
- (3) adding photosynthetic bacteria to the culture and further continuing the culturing.
- 25 (4) adding a carbon source originating from plants to the culture and further continuing the culturing, and
- (5) diluting the culture obtained in Stage (4) 2 to 4 times with the culture obtained in Stage (3).
- 30 8. A carbonaceous carrier containing microorganisms and enzymes originating from these microorganisms contained in the culture of Claim 4 in a dissolved carbon.
9. A process for producing the carrier of Claim 8, which comprises impregnation of finely divided carbon with the culture of the above Claim
- 35 4 or its diluted solution diluted with water to incorporate the active components of the culture of the above Claim 4 and at the same time to

- dissolve the carbon.
10. A porous absorbing material containing microorganisms and enzymes originating from these microorganisms contained in the culture of Claim 4.
- 5 11. The porous absorbing material as claimed in Claim 10, wherein the porous absorbing material is based on an activated carbon.
12. A process for producing the porous absorbing material as claimed in Claim 11, which comprising impregnation of a porous absorbing material with the culture of Claim 4 or its diluted solution diluted with
- 10 water to incorporate the active components of the culture of Claim 4.
13. The process for producing the porous absorbing material as claimed in Claim 12, wherein the porous absorbing material is based on an activated carbon.
14. The process for producing the porous absorbing material as claimed in Claim 12, wherein said porous absorbing material is a used material, and the material is impregnated with the culture of Claim 4 or its diluted solution diluted with water for a period sufficient for decomposing the ingredients absorbed into the porous absorbing material to simultaneously carry out the recovery of the used porous absorbing material.
- 20 15. A filter containing the absorbing material of Claim 10.
16. A soil improving material obtained by spraying or impregnating in the microbiological culture of any of Claims 1 to 4 a fibrous substance originating from plants.
17. The soil improving material as claimed in Claim 16, wherein said 25 fibrous substance originating from plants is sawdust of needle leaf trees, pulverized substances of logged trees, rice chaff, buckwheat chaff, construction material having been primarily treated, or a mixture thereof.
18. A process for improving soil which comprises mixing the soil improving material as claimed in Claim 16 or 17 with a fertilizer, and
- 30 placing the mixture on soil to be treated at a height of from 1 to 100 cm.
19. The process as claimed in Claim 18, wherein said soil to be treated is soil whose crumb structure has been lost.
20. The process as claimed in Claim 18, wherein said soil to be treated is desertified soil or soil containing salts.
- 35 21. A process for improving soil which comprises placing a fibrous substance originating from plants mixed with a fertilizer at a height of from

- 1 to 100 cm, and spraying the culture of any of Claims 1 to 4 or its diluted solution diluted with water.
- 22. The process as claimed in Claim 21, wherein said soil to be treated is soil whose crumb structure has been lost.
- 5 23. The process as claimed in Claim 21, wherein said soil to be treated is desertified soil or soil containing salts.
- 24. A process for optimizing a plant system composed of a container for cultivating a plant, a medium for cultivating a plant, and a plant to be cultivated; which process comprises:
 - 10 incorporating said plant system into a sealed container, filling the sealed container with the culture of any of Claims 1 to 4 diluted with water, sealing the sealed container, and leaving the sealed container stand for a period sufficient for killing disease carriers and eggs thereof existing in the system.
 - 15 25. The process for optimizing a plant system as claimed in Claim 24; wherein said plants to be cultivated are somewhat withered, and the revival of the plants is carried out at the same time.
 - 26. A process for reviving a plant attacked by a pathogenic organism, which comprises:
 - 20 (a) a stage of digging up the plant, and washing the whole of the plant with a solution of the microorganism culture described in any of Claims 1 to 4 diluted with water,
 - (b) a stage of spraying a solution of the microorganism culture described in any of Claims 1 to 4 diluted with water on the soil thus dug,
 - 25 and
 - (c) a stage for newly planting the plant and applying soil in which a solution of the microorganism culture described in any of Claims 1 to 4 diluted with water is impregnated.
 - 27. The process for reviving a plant as claimed in Claim 26, wherein 30 said plant is injured by stem canker, and which process further comprises a stage of surgically removing the portion infected with the stem canker, applying the slurry of Claim 8, followed by drying.
 - 28. The process for reviving a plant as claimed in Claim 26, wherein 35 said a pathogenic organism causes drop (*Sclerotinia sclerotiorum*), clubroot, mottled spot, brown canker, mildew, and rust.
 - 29. An organic fertilizer obtained by adding feces and urine of livestock

to a solution of the microorganism culture described in any of Claims 1 to 4 diluted with water.

30. The fertilizer as claimed in Claim 29, which has sawdust of needle leaf trees further added.

5 31. The process for improving soil as claimed in Claim 29, wherein the fertilizer comprises the fertilizer as described in any of Claims 18 to 21.

32. A garbage decomposing material obtained by impregnating fibrous substances originating from plants with a solution of the microorganism solution as described in any of Claims 1 to 4.

10 33. The garbage decomposing material as claimed in Claim 32, wherein said fibrous substances originating from plants contain hard-to-decompose substances.

34. A process for treating garbage which comprises:

incorporating garbage to be treated into the garbage treating material as

15 claimed in Claim 32 or 33, and stirring the mixture to decompose the garbage in an odorless manner.

35. A liquid fertilizer comprising an odorless liquid obtained from the process of Claim 34.

36. A process for treating solid substances containing harmful 20 substances or salts which comprises:

mixing the carrier of Claim 8 with the solid to be treated, and stirring the mixture, followed by washing with water.

37. The process as claimed in Claim 36, wherein said solid substances to be treated are sands containing harmful substances or salts.

25 38. The process as claimed in Claim 36, wherein said solid substances to be treated are burned ash or fly ash containing harmful substances.

39. A fine aggregate comprising the sand treated according the process of Claim 37.

40. A reduction type construction material obtained from the fine 30 aggregate of Claim 39.

41. A fine aggregate comprising the burned ash or fly ash treated in the process of Claim 38.

42. A reduction type construction material obtained from the fine aggregate of Claim 41.

35 43. A reduction type construction material comprising the carrier of Claim 8.

44. A process for removing water bloom which comprises spraying a solution of the microorganism solution as described in any of Claims 1 to 4 diluted with water onto water bloom caused by eutrophication.
45. A process for treating seston which comprises incorporating the carrier of Claim 8 into water containing seston to aggregate the seston.
- 5 46. A process for treating water containing polluted sediments comprising incorporating the carrier of Claim 8 into water containing polluted sediments to decompose the polluted sediments.
47. An aggregating agent comprising the carrier of Claim 8.
- 10 48. A process for treating a liquid containing salts which comprises passing water containing salts through a filter containing the absorbing material of Claim 15 once or more times to remove the salts.
49. A process for treating a liquid containing salts which comprises incorporating the carrier of Claim 8 into water containing salts, followed by 15 stirring.
50. The process of as claimed in Claim 49 or 50, wherein said water contains seawater, and conversion of seawater into freshwater is carried out.
51. A process for treating a liquid containing harmful substances which 20 comprises incorporating the carrier of Claim 8 into a liquid containing harmful substances.
52. A process for treating a liquid containing harmful substances which comprises incorporating the carrier of Claim 8 into a liquid containing harmful substances, followed by stirring.
- 25 53. A process for treating a liquid containing harmful substances which comprises passing a liquid containing harmful substances through a filter containing the absorbing material of Claim 15 once or more times to remove the salts.
54. A process for treating a liquid containing harmful substances which 30 comprises:
- a) incorporating the carrier of Claim 8 into a liquid containing harmful substances, and
- b) passing the liquid containing harmful substances through the filter of Claim 15 containing the absorbing material once or more times to 35 remove the salts.
55. The process as claimed in Claim 54, wherein Stage (a) is carried out

while stirring.

56. The process as claimed in any of Claims 51 to 55, wherein said liquid containing harmful substances is an exhaust liquid containing heavy metals, organic halogen compounds or petroleum, an exhaust liquid from plating, an exhaust liquid from semiconductor processing, an exhaust liquid from developing photos, an exhaust liquid containing dyestuffs, exhaust water from sewage, and an exhaust liquid containing the mixtures of harmful substances.

56. An apparatus for treating a liquid comprising:

10 an inlet for supplying water to be treated,
a filtering portion comprising the filter of Claim 15 containing at least one absorbing material, and
a receiver which stores the treated water.

57. The apparatus as claimed in Claim 56 which further comprises means for supplying the treated liquid to said filter, which is connected to the receiver, whereby the treated water is supplied to the filter after several treatment to recover the filter.

58. The apparatus as claimed in Claim 56 or 57, which further comprises a water tank having a stirring portion for a pretreatment, and a transportation means for transporting the pretreated water to the filtering portion.

59. A process for treating a gas which comprises: a solution of the microorganism solution as described in any of Claims 1 to 4 diluted with water to a gas to be treated.

60. A process for treating a gas which comprises the absorbing material of Claim 15.

61. The process as claimed in Claim 59 or 60, wherein the gas to be treated is selected from among bad smells originating from organic or inorganic compounds, and gases containing organic or inorganic chemical hazards.

62. A deodorizer comprising a solution of the microorganism solution as claimed in any of Claims 1 to 4 diluted with water.

63. A liquid agent for decolorization of a liquid comprising a solution of the microorganism solution as claimed in Claim 4 diluted with water.

64. A process for removing harmful substances from a construction material which comprises spraying or impregnating a construction material

with a solution of the microorganism solution as claimed Claim 4 diluted with water.

65. A mildew-proofing agent comprising a solution of the microorganism solution as claimed in any of Claims 4 diluted with water.

66. An agent for reviving plants comprising a solution of the microorganism solution as claimed in Claim 4 diluted with water.

67. A deodorizer comprising carrier of Claim 4.

68. A deodorizer comprising the absorbing material of Claim 10.

69. A filter for treating water comprising the filter of Claim 15 containing the absorbing material.

70. An apparatus for purifying water comprising the filter of Claim 15 containing the absorbing material.

71. A showerhead comprising the filter for treating water of Claim 69.

72. A water-purifying agent comprising the carrier of Claim 8.

73. A water-purifying agent comprising the absorbing material of Claim 10.

74. The process as claimed in Claim 51, wherein the harmful substance is a heavy metal.

75. The process as claimed in Claim 74, wherein said heavy metal is chromium, copper, cobalt, manganese, mercury, cadmium or a mixture thereof.

76. The process as claimed in Claim 51, wherein the harmful substance is an organic halogen.

77. The process as claimed in Claim 76, wherein said organic halogen is a dioxin, PCB, chlorobenzene, tetrachloroethylene, trichloroethylene, dichloromethane, carbon tetrachloride, 1,2-dichloroethylene, 1,3-dichloroethylene, cis-1,2-dichloroethylene, 1,1,1-trichloroethylene, 1,3-dichloroethylene or a mixture thereof.

78. An enzyme/microorganism composite solution comprising (a) aerobic microorganisms, (b) anaerobic microorganisms, (c) at least one Basidiomycetes belonging to *Pleurotus coruncopiae*, living in symbiosis with each other, and enzymes produced as their metabolites, prepared by incorporating a source of

(a) aerobic microorganisms and an essence of (c) Basidiomycetes containing at least *Pleurotus coruncopiae* into a solution obtained by pulverizing proteins mainly comprising animal proteins, adding grain and yeast to the pulverized substances to undergo fermentation, heating the fermented products, pulverizing the heated product, adding a *Lactobacillaceae* culture or a *Bacillus subtilis* culture to the pulverized products and fermenting the culture under aerobic conditions, and culturing the microorganisms under aerobic conditions at normal temperature and normal pressure until the solution becomes transparent; and incorporating a source of (b) anaerobic microorganisms to the above culture and culturing the mixture under anaerobic conditions at normal temperature and normal pressure.

79. The enzyme/microorganism composite solution as claimed in Claim 78, wherein Basidiomycetes is obtained by mating *Pleurotus coruncopiae*

with *Pleurotus coruncopiae*.

80. The microorganism culture as claimed in Claim 78, which further comprising photosynthetic bacteria.

81. The microorganism culture as claimed in Claim 80, which further comprising enzymes for decomposing carbon.

82. A process for producing the enzyme/microorganism composite solution as claimed in Claim 78, which comprises the following stages:

(1) incorporating a source of aerobic microorganisms and an essence of Basidiomycetes containing at least *Pleurotus coruncopiae* into a solution obtained by pulverizing proteins mainly comprising animal proteins, adding grain and yeast to the pulverized substances to undergo fermentation, heating the fermented products, pulverizing the heated product, adding a *Lactobacillaceae* culture or a *Bacillus subtilis* culture to the pulverized products and fermenting the culture under aerobic conditions, and culturing the microorganisms under aerobic conditions at normal temperature and normal pressure until the solution becomes transparent; and

(2) incorporating a source of anaerobic microorganisms to the above culture and culturing the mixture under anaerobic conditions at normal temperature and normal pressure.

83. A process for producing the enzyme/microorganism

composite solution as claimed in Claim 80, which comprises the following stages:

- (1) incorporating a source of aerobic microorganisms and an essence of Basidiomycetes containing at least Pleurotus coruncopiae into a solution obtained by pulverizing proteins mainly comprising animal proteins, adding grain and yeast to the pulverized substances to undergo fermentation, heating the fermented products, pulverizing the heated product, adding a Lactobacillaceae culture or a Bacillus subtilis culture to the pulverized products and fermenting the culture under aerobic conditions, and culturing the microorganisms under aerobic conditions at normal temperature and normal pressure until the solution becomes transparent;
- (2) incorporating a source of anaerobic microorganisms to the above culture and culturing the mixture under anaerobic conditions at normal temperature and normal pressure, and
- (3) adding photosynthetic bacteria to the culture and further continuing the culturing.

84. A process for producing the enzyme/microorganism composite solution as claimed in Claim 81, which comprises the following steps:

- (1) incorporating a source of aerobic microorganisms and an essence of Basidiomycetes containing at least Pleurotus coruncopiae into a solution obtained by pulverizing proteins mainly comprising animal proteins, adding grain and yeast to the pulverized substances to undergo fermentation, heating the fermented products, pulverizing the heated product, adding a Lactobacillaceae culture or a Bacillus subtilis culture to the pulverized products and fermenting the culture under aerobic conditions, and culturing the microorganisms under aerobic conditions at normal temperature and normal

pressure until the solution becomes transparent;

(2) incorporating a source of anaerobic microorganisms to the above culture and culturing the mixture under anaerobic conditions at normal temperature and normal pressure,

(3) adding photosynthetic bacteria to the culture and further continuing the culturing.

(4) adding a carbon source originating from plants to the culture and further continuing the culturing, and

(5) diluting the culture obtained in Step (4) 2 to 4 times with the culture obtained in Step (3).

85. A carbonaceous carrier containing microorganisms and enzymes originating from these microorganisms contained in the enzyme/microorganism composite solution of Claim 81 in a dissolved carbon.

86. A process for producing the carrier of Claim 85, which comprises impregnation of finely divided carbon with the enzyme/microorganism composite solution of the Claim 81 or its diluted solution diluted with water to incorporate the active components of the culture according to Claim 81 and at the same time to dissolve the carbon.

87. A porous absorbing material containing microorganisms and enzymes originating from these microorganisms contained in the enzyme/microorganism composite solution of Claim 81.

88. The porous absorbing material as claimed in Claim 87, wherein the porous absorbing material is based on an activated carbon.

89. A process for producing the porous absorbing material as claimed in Claim 88, comprising impregnation of a porous absorbing material with the enzyme/microorganism composite solution of Claim 81 or its diluted solution diluted with water to incorporate the active components of the culture of Claim 81.

90. The process for producing the porous absorbing material as claimed in Claim 89, wherein the porous absorbing material is based on an activated carbon.

91. The process for producing the porous absorbing material as claimed in Claim 89, wherein said porous absorbing material is a used material, and the material is impregnated with the culture of Claim 81 or its diluted solution diluted with water for a period sufficient for decomposing the ingredients absorbed into the porous absorbing material to simultaneously carry out the recovery of the used porous absorbing material.

92. A filter containing the porous absorbing material of Claim 87.

93. A soil improving material obtained by spraying or impregnating in the microbiological enzyme/microorganism composite solution

according to any one of claims 78-81, a fibrous substance originating from plants.

94. The soil improving material as claimed in Claim 93, wherein said fibrous substance originating from plants is sawdust of needle leaf trees, pulverized substances of logged trees, rice chaff, buckwheat chaff, construction material having been primarily treated, or a mixture thereof.

95. A process for improving soil which comprises mixing the soil improving material as claimed in Claim 93 or 94 with a fertilizer, and placing the mixture on soil to be treated at a height of from 1 to 100 cm.

96. The process as claimed in Claim 95, wherein said soil to be treated is soil whose crumb structure has been lost.

97. The process as claimed in Claim 95, wherein said soil to be treated is desertified soil or soil containing salts.

98. A process for improving soil which comprises placing a fibrous substance originating from plants mixed with a fertilizer at a height of from 1 to 100 cm, and spraying the enzyme/microorganisms composite solution according to any one of claims 78-81 or its diluted solution diluted with water.

99. The process as claimed in Claim 98, wherein said soil to

be treated is soil whose crumb structure has been lost.

100. The process as claimed in Claim 98, wherein said soil to be treated is desertified soil or soil containing salts.

101. A process for optimizing a plant system comprising a container for cultivating a plant, a medium for cultivating a plant, and a plant to be cultivated comprising:

incorporating said plant system into a sealed container, filling the sealed container with the enzyme/microorganism composite solution according to any one of claims 78-81 diluted with water, sealing the sealed container, and leaving the sealed container stand for a period sufficient for killing disease carriers and eggs thereof existing in the system.

102. The process for optimizing a plant system as claimed in Claim 101, wherein said plants to be cultivated are somewhat withered, and the revival of the plants is carried out at the same time.

103. A process for reviving a plant attacked by a pathogenic organism comprising:

(a) digging up the plant, and washing the whole of the plant with a solution of the microorganism culture according to any one of claims 78-81 diluted with water,

(b) spraying a solution of the microorganism enzyme/microorganisms composite solution according to any one of claims 78-81 diluted with water on

the soil thus dug, and

(c) newly planting the plant and applying soil in which a solution of the microorganism culture according to any one of claims 78-81 diluted with water is impregnated.

104. The process for reviving a plant as claimed in Claim 103, wherein said plant is injured by stem canker, and which process further comprises surgically removing the portion infected with the stem canker, applying the slurry of Claim 85, followed by drying.

105. The process for reviving a plant as claimed in Claim 103, wherein said a pathogenic organism causes drop (*Sclerotinia sclerotiorum*), clubroot, mottled spot, brown canker, mildew, and rust.

106. An organic fertilizer obtained by adding feces and urine of livestock to a solution of the microorganism culture according to any one of claims 78-81 diluted with water.

107. The organic fertilizer as claimed in Claim 106, which has sawdust of needle leaf trees further added.

108. The process for improving soil as claimed in Claim 95, wherein the fertilizer comprises the fertilizer according to any one of claims 95-98.

109. A garbage decomposing material obtained by impregnating fibrous substances originating from plants with a solution of the microorganism solution according to any one of claims 78-81.

110. The garbage decomposing material as claimed in Claim 109, wherein said fibrous substances originating from plants contain hard-to-decompose substances.

111. A process for treating garbage comprising:

incorporating garbage to be treated into the garbage treating material as claimed in Claim 109 or 110, and stirring the mixture to decompose the garbage in an odorless manner.

112. A liquid fertilizer comprising an odorless liquid obtained from the process of Claim 111.

113. A process for treating solid substances containing harmful substances or salts comprising mixing the carrier of Claim 85 with the solid to be treated, and stirring the mixture, followed by washing with water.

114. The process as claimed in Claim 113, wherein said solid to be treated are sands containing harmful substances or salts.

115. The process as claimed in Claim 113, wherein said solid to be treated are burned ash or fly ash containing harmful substances.

116. A fine aggregate comprising the sands of claim 114 treated according the process of Claim 113.

117. A reduction type construction material obtained from the fine aggregate of Claim 116.

118. A fine aggregate comprising the burned ash or fly ash of claim 115 treated according to the process of Claim 113.

119. A reduction type construction material obtained from the fine aggregate of Claim 118.

120. A reduction type construction material comprising the carrier of Claim 85.

121. A process for removing water bloom which comprises spraying a solution of the enzyme/microorganism composite solution according to any one of claims 78-81 diluted with water onto water bloom caused by eutrophication.

122. A process for treating seston which comprises incorporating the carrier of Claim 85 into water containing seston to aggregate the seston.

123. A process for treating water containing polluted sediments comprising incorporating the carrier of Claim 85 into the water containing polluted sediments to decompose the polluted sediments.

124. An aggregating agent comprising the carrier of Claim 85.

125. A process for treating a liquid containing salts which comprises passing water containing salts through a filter containing the filter of Claim 92 one or more times to remove the salts.

126. A process for treating a liquid containing salts which comprises incorporating the carrier of Claim 85 into water containing salts, followed by stirring.

127. The process of as claimed in Claim 125 or 126, wherein said water contains seawater, and conversion of seawater into freshwater is carried out.

128. A process for treating a liquid containing harmful substances which comprises incorporating the carrier of Claim 85 into a liquid containing harmful substances.

129. A process for treating a liquid containing harmful substances which comprises incorporating the carrier of Claim 85 into a liquid containing harmful substances, followed by stirring.

130. A process for treating a liquid containing harmful substances which comprises passing a liquid containing harmful substances through a filter containing the filter of Claim 92 one or more times to remove the salts.

131. A process for treating a liquid containing harmful substances which comprises:

- a) incorporating the carrier of Claim 85 into a liquid containing harmful substances, and
- b) passing the liquid containing harmful substances through the filter of Claim 92 containing the absorbing material once or more times to remove the salts.

132. The process as claimed in Claim 131, wherein (a) is carried out while stirring.

133. An apparatus for treating a liquid comprising:
an inlet for supplying water to be treated,
a filtering portion comprising the filter of Claim 92 containing at least one absorbing material, and
a receiver which stores the treated water.

134. The apparatus as claimed in Claim 133, which further comprises means for supplying the treated liquid to said filter, which is connected to the receiver, whereby the treated water is supplied to the filter after several treatment to recover the filter.

135. The apparatus as claimed in Claim 133 or 134, which further comprises a water tank having a stirring portion for a pretreatment, and a transportation means for transporting the pretreated water to the filtering portion.

136. A process for treating a gas which comprises a solution of the microorganism solution according to any one of claims 78-81 diluted with water to a gas to be treated.

137. A process for treating a gas which comprises the filter of Claim 92.

138. The process as claimed in Claim 136 or 137, wherein the gas to be treated is selected from among bad smells originating from organic or inorganic compounds, and gases containing organic or inorganic chemical hazards.

139. A deodorizer comprising a solution of the enzyme/microorganism composite solution according to any one of claims 78-81 diluted with water.

140. A liquid agent for decolorization of a liquid comprising a solution of the enzyme/microorganism composite solution according to any one of claims 78-81 diluted with water.

141. A process for removing harmful substances from a construction material which comprises spraying or impregnating a construction material with a solution of the enzyme/microorganism composite solution according to any one of claims 78-81 diluted with water.

142. A mildew-proofing agent comprising a solution of the enzyme/microorganism composite solution according to any one of claims 78-81 diluted with water.

143. An agent for reviving plants comprising a solution of the enzyme/microorganism composite solution according to any one of claims 78-81 diluted with water.

144. A deodorizer comprising the carrier of Claim 85.

145. A deodorizer comprising the absorbing material of Claim 87.

146. A filter for treating water comprising the filter of Claim 92 containing the absorbing material.

147. An apparatus for purifying water comprising the filter of Claim 92 containing the absorbing material.

148. A showerhead comprising the filter for treating water of Claim 146.

149. A water-purifying agent comprising the carrier of Claim 85.

150. A water-purifying agent comprising the absorbing material of Claim 87.

151. The process as claimed in Claim 128, wherein the harmful substance is a heavy metal.

152. The process as claimed in Claim 151, wherein said heavy metal is chromium, copper, cobalt, manganese, mercury, cadmium or a mixture thereof.

153. The process as claimed in Claim 128, wherein the harmful substance is an organic halogen.

154. The process as claimed in Claim 153, wherein said organic halogen is a dioxin, PCB, chlorobenzene, tetrachloroethylene, trichloroethylene, dichloromethane, carbon tetrachloride, 1,2-dichloroethylene, 1,3-dichloroethylene, cis-1,2-dichloroethylene, 1,1,1-trichloroethylene, 1,3-dichloroethylene or a mixture thereof.

155. The process as claimed in Claim 128, wherein said harmful substance is petroleum.

156. The process as claimed in Claim 128, wherein said liquid to be treated is a plating exhaust liquid.

157. The process as claimed in Claim 128, wherein said liquid to be treated is an exhaust liquid from semiconductor processing.

158. The process as claimed in Claim 128, wherein said liquid to be treated is an exhaust liquid from photo developing.

159. The process as claimed in Claim 128, wherein said liquid to be treated is an exhaust liquid containing dyestuffs.

160. The process as claimed in Claim 128, wherein said liquid to be treated is a sewage.

161. The process as claimed in Claim 128, wherein said liquid to be treated is an exhaust liquid containing heavy metal, organic halogen or petroleum, or from plating industries, semiconductor processing, photo developing or sewage.

162. The process as claimed in Claim 129, wherein the harmful substance is a heavy metal.

163. The process as claimed in Claim 162, wherein said heavy metal is chromium, copper, cobalt, manganese, mercury, cadmium or a mixture thereof.

164. The process as claimed in Claim 129, wherein the harmful substance is an organic halogen.

165. The process as claimed in Claim 164, wherein said organic halogen is a dioxin, PCB, chlorobenzene, tetrachloroethylene, trichloroethylene, dichloromethane, carbon tetrachloride, 1,2-dichloroethylene, 1,3-dichloroethylene, cis-1,2-dichloroethylene, 1,1,1-trichloroethylene, 1,3-dichloroethylene or a mixture thereof.

166. The process as claimed in Claim 129, wherein said harmful substance is petroleum.

167. The process as claimed in Claim 129, wherein said liquid to be treated is a plating exhaust liquid.

168. The process as claimed in Claim 129, wherein said liquid to be treated is an exhaust liquid from semiconductor processing.

169. The process as claimed in Claim 129, wherein said liquid to be treated is an exhaust liquid from photo developing.

170. The process as claimed in Claim 129, wherein said liquid to be treated is an exhaust liquid containing dyestuffs.

171. The process as claimed in Claim 129, wherein said liquid to be treated is a sewage.

172. The process as claimed in Claim 129, wherein said liquid to be treated is an exhaust liquid containing heavy metal, organic halogen or petroleum, or from plating industries, semiconductor processing, photo developing or sewage.

173. The process as claimed in Claim 130, wherein the harmful substance is a heavy metal.

174. The process as claimed in Claim 173, wherein said heavy metal is chromium, copper, cobalt, manganese, mercury, cadmium or a mixture thereof.

175. The process as claimed in Claim 130, wherein the harmful substance is an organic halogen.

176. The process as claimed in Claim 175, wherein said organic halogen is a dioxin, PCB, chlorobenzene, tetrachloroethylene, trichloroethylene, dichloromethane, carbon tetrachloride, 1,2-dichloroethylene, 1,3-dichloroethylene, cis-1,2-dichloroethylene, 1,1,1-trichloroethylene, 1,3-dichloroethylene or a mixture thereof.

177. The process as claimed in Claim 130, wherein said harmful substance is petroleum.

178. The process as claimed in Claim 130, wherein said liquid to be treated is a plating exhaust liquid.

179. The process as claimed in Claim 130, wherein said liquid to be treated is an exhaust liquid from semiconductor processing.

180. The process as claimed in Claim 130, wherein said liquid to be treated is an exhaust liquid from photo developing.

181. The process as claimed in Claim 130, wherein said liquid to be treated is an exhaust liquid containing dyestuffs.

182. The process as claimed in Claim 130, wherein said liquid to be treated is a sewage.

183. The process as claimed in Claim 130, wherein said liquid to be treated is an exhaust liquid containing heavy metal, organic halogen or petroleum, or from plating industries, semiconductor processing, photo developing or sewage.

184. The process as claimed in Claim 131, wherein the harmful substance is a heavy metal.

185. The process as claimed in Claim 184, wherein said heavy metal is chromium, copper, cobalt, manganese, mercury, cadmium or a mixture thereof.

186. The process as claimed in Claim 131, wherein the harmful substance is an organic halogen.

187. The process as claimed in Claim 131, wherein said organic halogen is a dioxin, PCB, chlorobenzene, tetrachloroethylene, trichloroethylene, dichloromethane, carbon tetrachloride, 1,2-dichloroethylene, 1,3-dichloroethylene, cis-1,2-dichloroethylene, 1,1,1-trichloroethylene, 1,3-dichloroethylene or a mixture thereof.

188. The process as claimed in Claim 131, wherein said harmful substance is petroleum.

189. The process as claimed in Claim 131, wherein said liquid to be treated is a plating exhaust liquid.

190. The process as claimed in Claim 131, wherein said liquid to be treated is an exhaust liquid from semiconductor processing.

191. The process as claimed in Claim 131, wherein said liquid to be treated is an exhaust liquid from photo developing.

192. The process as claimed in Claim 131, wherein said liquid to be treated is an exhaust liquid containing dyestuffs.

193. The process as claimed in Claim 131, wherein said liquid to be treated is a sewage.

194. The process as claimed in Claim 131, wherein said liquid to be treated is an exhaust liquid containing heavy metal, organic halogen or petroleum, or from plating industries, semiconductor processing, photo developing or sewage.

195. The process as claimed in Claim 132, wherein the harmful substance is a heavy metal.

196. The process as claimed in Claim 195, wherein said heavy metal is chromium, copper, cobalt, manganese, mercury, cadmium or a mixture thereof.

197. The process as claimed in Claim 132, wherein the harmful substance is an organic halogen.

198. The process as claimed in Claim 132, wherein said organic halogen is a dioxin, PCB, chlorobenzene, tetrachloroethylene, trichloroethylene, dichloromethane, carbon tetrachloride, 1,2-dichloroethylene, 1,3-dichloroethylene, cis-1,2-dichloroethylene, 1,1,1-trichloroethylene, 1,3-dichloroethylene or a mixture thereof.

199. The process as claimed in Claim 132, wherein said harmful substance is petroleum.

200. The process as claimed in Claim 132, wherein said liquid to be treated is a plating exhaust liquid.

201. The process as claimed in Claim 132, wherein said liquid to be treated is an exhaust liquid from semiconductor processing.

202. The process as claimed in Claim 132, wherein said liquid to be treated is an exhaust liquid from photo developing.

203. The process as claimed in Claim 132, wherein said liquid to be treated is an exhaust liquid containing dyestuffs.

204. The process as claimed in Claim 132, wherein said liquid to be treated is a sewage.

205. The process as claimed in Claim 131, wherein said liquid to be treated is an exhaust liquid containing heavy metal, organic halogen or petroleum, or from plating industries, semiconductor processing, photo developing or sewage.